

THE ROLE OF HUMAN CAPITAL IN VALUE CREATION: THEORETICAL INSIGHTS

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Abstract. *The growth of the modern knowledge-based economy is becoming less dependent on tangible assets and, respectively, hinges more on the intangibles which are defined as human capital (HC). Despite the great number of scientific works dedicated to the HC phenomenon, the interest in this field had its “ups and downs” which caused changes not only in the notional concept itself, but also in the approach to its importance in value creation by measuring the returns of its investments. The purpose of the article is to analyse the evolution of these approaches. The nature of the article is both theoretical and analytical; it is based on quite an abundant list of scientific publications by Lithuanian and foreign authors. Adequate research methods were used in the study, such as a systematic analysis of scientific literature, logical comparative analysis and generalization. The originality of the study is ingrained in the fact that it reveals changes in the concept of human capital since its rise in the late 1960s until the most recent ideas which were formed and are still under development in the 2010s.*

Key words: *human capital, value creation, firm performance*

Introduction

In 1991 D. Grayson, a representative of the American management emphasized that “human capital—more than plants, equipment and inventory—is the cornerstone of competitiveness, growth and productivity” (Grayson, 1998). However, until the late 1960s the predominant outlook on the employees had nothing in common with this statement. Cost reduction was emphasized of as first and foremost importance, while any investment in employees was considered to be administrative costs. The changes of such viewpoint find their roots in the HC theory which states that employees are an asset of the organization, and any investment in them is interpreted as a special investment not only in the current activities of the organization, but in its future development as well. The scientific idea of the HC theory originally comes from the USA, as in October 1962 the scientific “Journal of Political Economy” published a series of articles of the formation of new-quality human resources in the conditions of the scientific and technological progress. What was the basis for such conclusions to be made concerning the new quality of human resources?

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First of all, in the USA and other developed countries, the number of employees engaged in intellectual work was increasing rapidly. Secondly, the scientific and technological advance caused the emergence of new professions, such as gene engineers, IT specialists, systems' analysts, etc. The number of such specialists was going up twice as fast as of the other ones. Thirdly, changes in the profession and qualification structure of their employees were followed by the increase of the education levels. Fourthly, the growing competition between the United States and Japan showed that the former were weaker in most aspects. While looking for the reasons of the US failure, attention was directed towards quite a low level of employees' responsibility, the insufficient level of their training and education system, which in turn required a reorganized management of human resources. It made the company leadership "realize" that the expenses for human resources do not only increase the expenses, but are also part of investments which reinforce the competitiveness of the companies.

All these conditions led to the acknowledgement of quality changes in human resources. Moreover, they also incited the development of human capital theory. Among the founding fathers of the theory we can see T. Schultz, who was the first to use the concept of "human capital" in scientific writings (1961), as well as G. Becker, famous for the explication of the model of individual's investment in human capital.

1. Interpretation variety of human capital concept and structure

Lithuanian and foreign scientists interpret the concept of human capital and its structural elements in different ways. The concept of human capital used to be only an object of discussions; however, along with the growth of knowledge-based economy, the interest in intellectual capital rose greatly, and in the late 20th and early 21st century social capital came into view. Therefore, the revealing the concept of human capital would not be complete without analysing the concepts of intellectual and social capital as well as their difference from human capital.

Analysis of a large number of articles written by different scientists has revealed that the major disagreements are centred on the dilemma of whether or not intellectual capital is a constituent part of human capital. Based on the works of Sullivan (1996), Royal, O'Donnell, (2008), Johanson (2005), Roos (2005) et al., we present a model of links among intellectual, human and social capital (Fig. 1). It shows that each type of capital is related to knowledge which, according to Sullivan (1996), can be exchanged for value.

T. Steward was the first to define intellectual capital as packaged useful knowledge. The very term "intellectual capital" was formed only in the early 1990s and is considered to be synonymous to the company's intangible assets. The majority of definitions assign the following aspects to this capital:

- 1) knowledge;
- 2) process of knowledge exchange (research, knowledge application, knowledge systems, etc.);

- 3) products created on the basis of exchange of knowledge (patents, trademarks and other property which entitle one to the right of intellectual property).

Lithuanian scientific sources offer various definitions of intellectual capital. Over the recent years, this capital has been the object of study of the following researchers: R. Mikutienė (2000, 2004), R. Jucevičius (2000), Z. Lydeka and R. Lukoševičius (2005), J. Palumickaitė and K. Matuzevičiūtė (2007), etc. Their research implies that intellectual capital is a result of a combination of human and structural capital, suitable for value creation in organizations.

The foreign researchers view intellectual capital as a combination of many components. Pew Tan et. al. (2007) agree with T. Stewart's idea of intellectual capital being a blend of human, structural (software, databases, patents, etc.) and consumer capital (long-term agreements, consumer satisfaction, success, etc.). Royal and O'Donnell (2008) divide the intellectual capital into human and intangible. The latter, according to these researchers, includes consumer and organizational capital (organization strategy, philosophy, etc.). Zéghal and Maaloul (2010) describe intellectual capital as the aggregate of all an company knowledge which is used in business to create a value-added value for the company.

Thus, so far there has been neither a generally accepted definition of intellectual capital, nor a classification of its structural elements. The case of another term – human capital – is analogous, even though it is a few decades “older” than the concept of intellectual capital. Moreover, we do not regard HC (which encompasses not only knowledge, but also health maintenance, employee mobility, job search) as a structural element of intellectual capital, but, vice versa, human capital subsumes the intellectual one (Fig. 1).

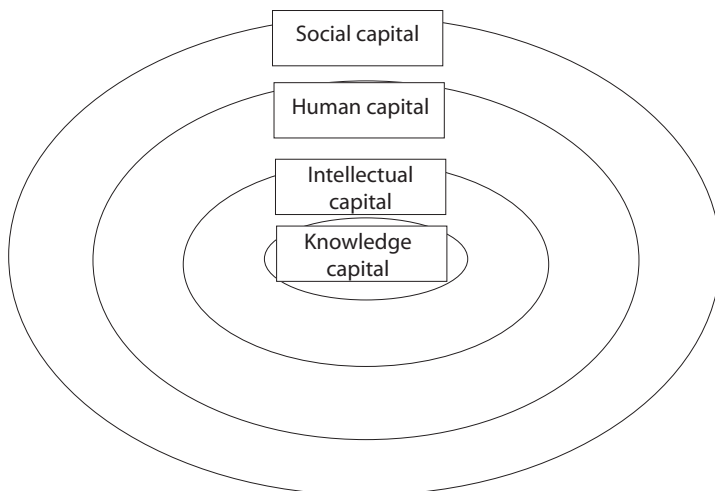


FIG. 1. The model of links among intellectual, human and social capital

Source: compiled by authors based on Royal, O'Donnell (2008), Johanson (2005), Roos (2005).

Our comparative analysis of the scientific publications led to a classification of the development of theoretical concepts into three stages which also reflect the alterations of human capital role in value creation:

stage 1—since the early 1960s, when the concept of human capital emerged, to approximately the early 1970s. This stage is characterized by quite an intensive interest in the new concept;

stage 2—from the 1970s to the 1990s. Its typical feature is a decrease of interest in the importance of the human capital idea;

stage 3—started in about the 1990s and continues until the present time. Knowledge-based economies and the simultaneously growing popularity of the concept of intellectual capital have revitalized the interest in human capital. Each of the stages has its specific focal points both in the definition of human capital and in the assessment of its role in value creation.

Lithuanian scientists and researchers examine the problems that belong to the “intermediary” stage of development between the first and the second stage. Despite the fact that they offer different interpretations of the concept of human capital, one can notice certain recurring elements of similarity, such as knowledge, skills, education, health, mobility, etc. In this respect, a thorough definition is given by Bagdonavičius (2009) who claims that human capital stands for certain resources of health, knowledge, skills, abilities and motivations formed and accumulated due to investments, and they are used purposefully in some social reproduction spheres to encourage the growth of labour productivity and industry efficiency, as well as to increase wages.

The standpoints of foreign authors on human capital were changing in the context of the three above-mentioned stages. In the first stage, Hekimian (1963), Hermanson (1964), Becker (1993), Topel (1990 et al. (Beattie, Smith, 2010) interpreted human capital as the whole range of individual knowledge, skills and education; however, in the course of time other elements were added, such as investments in health and job mobility. All the investments in human capital can be classified according to the following groups of expenses assigned for:

- health protection in its broad sense, including the expenses that affect the employee lifetime and endurance;
- employee training and development;
- acquisition of formal education (primary, secondary, higher);
- migration of individuals and families with an aim to change employment conditions;
- search for economically important information.

The third stage is represented by the approach of G. Ward expressed in 2000: “Companies that ignore human capital will go the way of dinosaurs” (Gates, Langevin, 2010). Human capital is viewed as a source of competitive advantage in the knowledge-

driven economy and as a crucial element in ensuring a successful and sustainable development of the economy.

How is social capital defined? Even though the very concept of social capital has existed for nearly a century (Hanifan was the first to use it in 1916), a more active interest in it was noticed over the last two decades. Without going deeper into broad theoretical discussions on the relationship between social, human and other forms of capital, it should be noted that there is a fundamental difference between social capital and other forms of capital. Social capital is part of relationships between its originators and other participants, it is a social value (Tijūnaitienė, 2008). Jankauskas and Šeputienė (2007) define social capital within these three aspects: confidence, social norms and social network. Some other Lithuanian authors (Gižienė V., Simanavičienė Ž., 2009) consider human capital and social capital to be synonymous.

The concept of social capital was further elaborated by a major contribution of the sociology professor R. Putman. He claims that social capital originates from involvement in social organizations as well as voluntary activities and fulfils two important functions: 1) motivates democratic governance; 2) encourages and maintains economic growth and development. In spite of all the differences of interpretation, it is noteworthy that social capital is understood as a composite phenomenon – a system of associations, activities and relationships which unite people into a community by means of certain norms and psychological abilities, high confidence, and which are compulsory for a civil society as well as useful for future collective actions or assets with the assistance of other forms of capital (Tijūnaitienė, 2008). Therefore, it can be said to represent involvement in collective activities. However, it is not the result but rather the cause or motive that can encourage this involvement.

To summarize, the concept of human capital is not identical to those of intellectual and social capital; they cannot be synonymous. On the other hand, the common feature of intellectual, human and social capital is that they all belong to intangible assets which also create value. The willingness to measure and visualize this value led to many new methods, models, approaches and theories.

2. The evolution of viewpoints on human capital contribution to value creation

The scientific literature emphasizes the fact that the greatest challenge for human capital researchers is to prove that human capital creates value. Moreover, some researchers equalize the human capital value calculation with measuring the value created with the help of human capital. This particular approach will be discussed below.

There is no universal method to assess the human-capital-created value and to show it in the form of numbers or graphs. This problem, as well as the human capital phenomenon itself, became increasingly topical within the academic strata in the late 1960s and early

1970s. Later on, a decline in its popularity followed, whereas the last two decades have seen a rise again. During the time under scrutiny, the assessment methods and indicators of human capital investment efficiency and involvement in value creation underwent certain changes. In the early periods, the financial accountability methods and indicators prevailed; meanwhile, both of them were altered, and a major emphasis was placed on non-financial indicators. This evolution of methods and indicators reflects the respective shifts in the concept of human capital.

In the 1960s–1970's, financial accountability methods and indicators dominated in the assessment of human capital contribution to value creation. The field of interest of Lithuanian researchers was even narrower as most of them were analysing the effectiveness of investments in education, and only a minority had a broader outlook. For example, J. Bagdonavičius (2009) indicates the following criteria that can be used to evaluate the effectiveness of investments in human capital:

- maximization of difference between expenses and income;
- relation between expenses and income;
- net income;
- profit margin, etc.

According to this author, the effectiveness of using human capital in a company can be measured by comparing the output with the expenses. The output can be represented as an absolute or a relative growth in labour productivity, income growth after selling the product. Tamašauskienė et al. (2008) analyse the effectiveness of investing in such fields as employee training, employee fitness and workplace safety. They emphasise that investments in training improve employees' qualification and lead to remuneration and labour productivity growth. Investments in employees' fitness showed not only an economic benefit, which included larger scales of performance and a correspondingly higher remuneration due to decreased morbidity, but also a social effect – a better quality of life in the broad sense.

The Lithuanian literature on economics usually indicates two major investment effectiveness measurement methods: cost / benefit analysis and the Mincer earnings function. The methods of cost / benefit analysis, applied in calculating the value of investments into education, the average profit rate indicator, the reduced profit rate indicator, etc. are marked by diverse calculation techniques where the average costs or values of benefit elements are sufficient for calculating the profit rate. The essence of the Mincer method is to show the effect of one year of studies / training on an individual's income. Becker (1964) and Mincer (1974) were the first to use this method.

Mačerinskienė and Viržintaitė (2003) distinguish three main ways – cost-based, output-based, income-based – to assess the effectiveness of investment in education.

The cost-based method assesses the expediency of education-related costs incurred by an individual, family members, society or organization. Meanwhile, the output-based, method evaluates education investments in a qualitative way (adult literacy level,

indicator of persons with different education levels, average duration of studies, etc.). The third, income-based, method is widely used while seeking to evaluate the returns on education investments. The main measuring indicator for the income-based approach is the income received from an individual's participation in the job market.

The works of the foreign authors – representatives of the so-called early period (1960s–1970s) – were also permeated with the idea that the main problem of the effectiveness of investments in human capital is their correct accounting. Foreign researchers (Hermanson, 1964; Flamboltz, 1999, et al.) have claimed that human capital investments make up a separate entry in the balance sheet; moreover, this capital, just like other assets, can be accrued and depreciated. The view of these researchers was developed further by emphasizing the importance of measuring the human-capital-created value for an effective internal management of the organization. However, the search for an effective method while measuring the value created by monetary indicators, according to the authors, was the actual reason for all the failures. The inclusion of human capital investments (monetary form) in the balance sheets within the framework of financial accounting of those days was complicated. For this reason, Roslender and Dyson (1992) offered to shift the focus from *how much* value is created to *how* it is created. It can be accomplished not by balance sheet entry numbers, but by using a “more flexible” information. An example can be represented in the human capital dimension called “employee commitment” which can hardly be evaluated by exact financial measurements.

The last two decades are characterized by a broader outlook on human capital involvement in the creation of added value, overstepping the measurement boundaries of financial accounting and such indicators as labour costs and efficiency. Experiments are made by researchers in offering different methods for measuring not only human capital itself, but also the value created by it. Some authors suggest that the information on human capital should be included in the company's annual report, as it would boost the transparency of the company performance and increase the confidence of the stakeholders. Other authors relate the effectiveness of investments in human capital to the competitive advantage of organization (Beattie, Smith, 2010). We can find this idea in the latest (2007–2010) research and studies of foreign authors.

Guthrie and Petty (2007) in their empirical study singled out six human capital components: know-how, education, vocational qualification, work-related knowledge, work-related competences, and entrepreneurial spirit. Their purpose was to elucidate whether these components were perceived as value-creating and whether they were reflected in the annual reports of Australian companies. The authors managed to spot them only in 30% of the 20 companies that were studied. Brennan and Bozzolan (2008) analysed the same components in the context of 11 Irish and 30 Italian companies. They did not indicate the number of companies which reflected those indicators in their annual reports, but evaluated the recognition of human capital contribution to value creation in these companies as „low“.

Beattie and Smith (2010) undertook an empirical study on the contribution of human capital to value creation. The authors carried out a comparative analysis of the role of human capital in the generation of company value as viewed by 160 functional executives: 67 human resource (HR) directors and 93 finance directors (FDs). Their questionnaire survey included 18 human capital components, and the respondents had to identify their contribution to value creation. Here are some of the components: employee skills and education, employee commitment, attitudes, behaviour, motivation, relationship between employees and management, recruitment and selection procedures, employee remuneration procedures, workplace safety, employee turnover, etc. The research showed that the HR directors and FDs selected employee skills and education, relationship between employees and management, employee turnover, their training and development from the list of the components as the ones that are considered to make a major contribution to value creation. Employee commitment, positive employee attitudes, behaviour, motivation and workplace safety were given a lesser role. Meanwhile, such components as employee adaptability, innovativeness, employee equality, etc. were considered to have made the least contribution. The views of HR directors and FDs coincided only in four of the components the role of which was indicated as undoubtedly the most significant: these were:

- 1) employee skills and education; even though both types of functional executives emphasized this component as most valuable, the evaluations of HR directors (mean 4.46 according to the Likert scale) were higher than those of FDs (4.11);
- 2) relationship between employees and management, which had an analogous tendency of assessment (4.09 and 3.36, respectively);
- 3) employee training and development, which was recognized as important by HR directors (3.98), whereas FDs were more moderate on this point (3.47);
- 4) low level of employee turnover (evaluated at 3.63 and 3.14). The authors claim that such evaluations show a strong and moderate contribution of this component to the company value creation. The turnover cost reduction or avoidance is the very factor that generates value.

Summarizing the evaluations of both types of executives, Beattie and Smith note that all the assessments of FDs are by 0.66–1.01 lower than those of HR directors. The research unveiled the fact that HR specialists place a more positive emphasis on HC contribution to company value creation than do finance specialists.

In their conclusion, the authors state that there is a disparity in views of different executives; moreover, the FDs consider the role of human capital in value creation to be less significant in comparison with the opinions of the HR directors.

The research of Gates and Langevin (2010) is similar to that of Beattie and Smith in terms of the survey questionnaires which were also aimed at the human resources directors – 104 HR executives. The purpose of the survey was to find out whether the

executives understand the necessity of measuring the contribution of human capital to value creation, as well as to identify the links to the chosen strategy and their impact on company performance. The researchers used two factors – efficiency and innovation indicators – to measure human capital. The first one measured employees' labour efficiency and, above all, cost consciousness, whereas the second factor identified employees' entrepreneurial and innovative capabilities. The answers of HR executives' opinions revealed their views and expectations:

- 1) in their assessment of the crucial importance of human capital in modern companies, HR managers stated that the more advanced the company leadership was in understanding the contribution of human capital, the higher was the company's performance;
- 2) the link between human capital and the selected strategy is indubitable, since the respondent executives have emphasized that in case of the companies following a differentiation strategy, HR managers are mainly interested in human capital creativity and innovation indicators, while in those following the cost reduction strategy, the managers are focused on efficiency and cost reduction indicators.

The research showed that, according to HR managers' perception, not only the role of human capital is crucial in company performance, but also the employees' capabilities should be consistent with the chosen strategy.

While analysing the contribution of human capital to value added creation, a number of researchers use the currently popular Pulic model (Pulic, 2004). A. Pulic, along with his colleagues from the Austrian Intellectual Capital Research Centre, offered a new method of measuring the contribution of all the resources (human, structural, physical and financial) to and expressed it by the value added intellectual coefficient (VAIC). The calculation of the company value creating coefficient is based on a number of successive steps. The model starts with a company's ability to create value added (VA) according to the following equation:

$VA = OUT - IN$, where OUT is the output, i.e. it comprises all the products and services sold on the market; and IN contains all the expenses incurred in company activity, except for labour expenses.

The second step is to calculate the relation between value added and human capital (VA / HC) to obtain the value added human capital coefficient (VAHCC). It shows what amount of value added is retrieved by investing one financial unit in the employees. As Pulic considers labour expenses to be an indicator of human capital; they are investments but not costs. Thus, the VA / HC relation shows the capabilities of employees to create value.

The third step is analogous to the second one, but here the structural capital added value coefficient (STVA) is calculated. Fourthly, the sum of the two coefficients equals the value added intellectual coefficient:

$$VAHCC + STVA = VAIC .$$

The fifth step calculates the relation between VA and the utilized physical and financial capital to get the corresponding PFCVAC coefficient. It shows the amount of a new value created by investing one monetary unit in each of the resources. The greater it is, the higher the value created by the company resources.

The attractive feature of this method is that all the necessary data are reflected in the financial reports of the companies in an easily accessible and analysis-friendly form. Thus, the number of researchers who used the Pulic method grew on an annual basis. Zéghal and Maaloul (2010) applied this method in calculating the value added intellectual capital coefficient (VAIC) of 300 UK companies divided into three sectors: high-tech, traditional, and services. The research showed a direct dependence of companies' performance on this coefficient, and it also revealed the crucial role of human capital in industry cost reduction. Moreover, it has become clear that the VAIC shows better financial indicators of companies both in creating value for stockholders and other stakeholders. However, these results were clearly revealed only in the high-tech industry sector, indicating that UK investors perceive human capital as a source of value creation only in this sector.

In a similar research based on the Pulic method, the Asian region was studied by Australian researchers Pew Tan, Plowman and Hancock (2007). They collected data from publicly listed companies on the Singapore Exchange. The researchers analysed four human capital elements in 150 companies. The research findings have proven that:

- 1) human capital and company performance are positively related; their factual correlation is very important for investors, even though it alone is not sufficient;
- 2) human capital investments are strongly correlated with the future company performance, i.e. the larger the prospective investments, the better the future performance indicators. This information is extremely important for investors;
- 3) the growth rate of companies' human capital is positively related to their performance;
- 4) the contribution of human capital to company performance depends on the kind of industry, i.e. other assets apart from this capital affect both the companies' profitability and market value. This relation depends on the industry sector: for some of them financial and physical assets are more important, while others focus on human resources. This leads to a distinction among the industries.

The research has shown that the Pulic model is not limited by the geographical location of the companies and is relevant not only for Western European countries, but is "international" in its essence.

A different kind of research was carried out by Lopez-Cabrales et al., (2011). Their purpose was to reveal the role of HC by increasing the organizational learning abilities; 619 Spanish companies with their respective R&D departments were selected. The heads of these departments were chosen to be respondents because, according to the authors, they had the best knowledge of the practice related to human capital and HR

management at these departments. The study suggested three different findings. *First of all*, the organizational learning abilities are related to HR management practice mainly in such fields as employee selection, training, performance assessment and remuneration. The purpose of the selection procedure in this case is to choose individuals capable of learning and having a unique knowledge useful for ensuring the competitiveness of the company. The employee training process should encourage the company to invest in the knowledge that would be valuable and necessary for the company. When there is a feedback between performance assessment and the required competence, it is an incentive to improve the human capital based on the knowledge that is valuable and unique for the company. Meanwhile, when employee remuneration is adequate, this condition reinforces their desire to acquire valuable knowledge inaccessible for competitors for the good of the company. *Secondly*, the degree of human capital value and uniqueness is associated with organizational learning capabilities. The human capital characterized by valuable and unique knowledge will search for new methods of work and convert them into simple and routine ones. *Thirdly*, the research results have shown that the employee training practice is positively associated with organizational learning capabilities only when it is related to human capital. Therefore, human capital is mediating the relationships between HR management practices and organizational learning capabilities.

The other authors also confirmed a positive relation between investments in human capital and value creation. Findings of their investigations are presented in Table 1.

TABLE 1. Investments in human capital and value creation

| Authors and sample | Findings |
|---|---|
| Riahi-Belkaoui (2003) 81 US multinational firms | A significant and positive relation exists between HC and business performance |
| Mavridis (2004) 141 Japanese banks | The best performing banks are those that mainly show very good results in using of their human capital and less so as to the use of their physical capital |
| Chen et al. (2005) 4254 firms listed in the Taiwan Stock Exchange | The authors highlight the importance of HC in enhancing firm profitability and revenue growth |
| Tseng and Goo (2005) 81 Taiwanese largest manufacturers in terms of sales revenue | A positive relationship between HC and corporate value |
| Ng (2006) Multiple case study on six wireless technology firms in Canada | A correlation between different components of HC and business growth performance, which gave rise to the proposal of an HC flow statement |
| Pew et al. (2007) A sample of 150 firms listed on the Singapore Stock Exchange | A positive relation between HC and the present and future performance of a company |
| Kamath (2008) Top 25 firms (based on sales) in the drug and pharmaceutical industry in India | It provides a slight indication that the human assets are more important than the physical and structural assets in Indian pharmaceutical industry's profitability and productivity |

Source: Modified by authors according to Diez et al. (2010).

This review of the latest conceptions and research is not intended as a completed and closed study; nevertheless, it allows certain generalizations and insights:

- during the time span under investigation, the concept of human capital and its content underwent certain changes, i.e., in addition to the traditional elements (education, health maintenance, job mobility), other integral parts, such as employee attitudes, commitment, behaviour, motivation, etc. were attributed to human capital as well;
- the measurements of human capital “involvement” in added value creation also went through different transformations overstepping the limits of financial accountability, while the traditional indicators, such as performance costs and efficiency, were supplemented by new indicators, mainly non-financial ones;
- experiments are made to utilize different methods of measuring not only human capital itself, but its created value as well. None of the authors in their research have denied the positive role of human capital in value creation.

Conclusions

1. Until the late 1950s, the dominating view considered investment in employees to be administrative costs. Changes of this approach are related to the theory of human capital, which states that the employees are an asset of the organization, and any investment in them should be interpreted as a special investment not only in the current activities of the organization, but also in its future development.
2. While in the earlier years the concept of human capital used to be only an object of discussions, along with knowledge-based economy the interest in intellectual capital rose greatly, and in the late 20th and early 21st century social capital came into view. Each type of capital is related to knowledge which can be exchanged for value.
3. Assessment methods and indicators of human capital involvement in value creation underwent certain changes, too. In the early periods, the financial accountability methods and indicators prevailed; however, later an emphasis was put on non-financial indicators, such as employee commitment, attitudes, behaviour, motivation, relationship between employees and management, etc. One of the newest methods for evaluating the contribution of human capital to added value creation is a model developed at the Austrian Intellectual Capital Research Centre and named after its author A. Pulic (Pulic, 2004). The Pulic method measures the contribution of all the resources (human, structural, physical, and financial) in company value creation and expresses it by the value added intellectual coefficient.
4. The latest research, carried out by authors from different countries, revealed the following facts:
 - 1) the more advanced the company leadership in understanding human capital contribution, the higher the company’s performance;

- 2) the link between human capital and the selected strategy is real: in case of the companies following a differentiation strategy, human resource managers are mainly interested in human capital creativity and innovation indicators, while in those following the cost reduction strategy, the managers are focused on efficiency and cost reduction indicators.
5. This study of scientific publications revealed the fact that views on human capital contribution to added value creation went through gradual transformations, stepping over the limits of financial accountability and the traditional indicators, supplementing them with new indicators, mainly the non-financial ones. The current stage is characterized by experiments made to offer different methods of measuring not only human capital itself, but also its created value. Within the scope of this article, none of the authors in their research denied the positive role of human capital in value creation.

REFERENCES

- Bagdonavičius, J. (2009). Žmogiškasis kapitalas. Mokymo metodinė priemonė. VPU, p. 154.
- Beattie, V., Smith, S. (2010). Human capital, value creation and disclosure. *Journal of Human Resource Costing*, 14 (4), pp. 262–295.
- Clark, A. (2003). Returns to human capital investment in a transition economy: The case of Russia, 1994–1998. *International Journal of Manpower*, 24 (1), pp. 11–30.
- Diez, J., Ochoa, M., Prieto, M., Santidrian, A. (2010). Intellectual capital and value creation in Spanish firms. *Journal Intellectual Capital*, 11 (3), pp. 348–367.
- Gates, S., Langevin, P. (2010). Human capital measures, strategy, and performance: HR managers' perceptions. *Accounting, Auditing & Accountability Journal*, 22 (1), pp. 111–132.
- Grayson, D. (1998). *Jobs: the need for immediate relief*. Macmillan Press, pp. 237–245.
- Guthrie, J., Petty, R. (2007). Intellectual capital: Australian annual reporting practices. *Journal of Intellectual Capital*, 1 (3), pp. 241–251.
- Hongyi, L., Huang, L. (2010). Health, education and economic growth in East Asia. *Journal of Chinese Economic and Foreign Trade Studies*, 3 (2), pp. 110–130.
- Johanson, U., Martensson, M., Skoog, M. (2001). Mobilizing change through the management control of intangibles. *Accounting, Organizations and Society*, 26 (7/8), pp. 715–733.
- Lopez-Cabrales, A., Real, J., Valle, L. (2011). Relationships between HRM practices and organizational learning capability: The mediating role of human capital. *Personnel Review*, 40 (3), pp. 344–363.
- Murthy, V., Abeysekera, I. (2007). Human capital value creation practices of software and service exporter firms in India. *Journal of Human Resource Costing*, 11 (2), pp. 84–103.
- Neuman, P., Dul, J. (2010). Human factors: spanning the gap between operations system and HRM. *International Journal of Operations & Production Management*, 30 (9), pp. 923–951.
- Palumickaitė, J., K. Matuzevičiūtė, K. (2007). Intelektinis kapitalas ir vertės kūrimas: teorinis aspektas. *Ekonomika ir vadyba: aktualijos ir perspektyvos*, 1, No 8, pp. 206–211.
- Pew Tan, H., Plowman, D., Hancock, P. (2007). Intellectual capital and financial returns of companies. *Journal of Intellectual Capital*, 8, (1), pp. 76–95.
- Pulic, A. (2004). Intellectual capital: does it create or destroy value? Measuring business excellence. *International Journal of Manpower*, 8 (1), pp. 62–68.

Royal, C., O'Donnell, L. (2008). Differentiation in financial markets: the human capital approach, *Journal of Intellectual Capital*, 9 (4), pp. 668–683.

Roos, J. (1998). *Intellectual Capital: Navigating in the New Business Landscape*. New York University Press, NY, USA. ISBN:0814775128.

Saenz, J. (2005). Human capital indicators, business performance and market-to-book ratio. *Journal of Intellectual Capital*, 6 (3), pp. 374–384.

Tamašauskienė, Z., Šileika, A., Masėnienė, L. (2008). Investicijų į žmogiškąjį kapitalą ir jų grąžos tyrimas UAB „Arkada“. *Ekonomika ir vadyba: aktualijos ir perspektyvos*, t. 3, No 12, pp. 346–357.

Tijūnaitienė R. (2008). Socialinio kapitalo konceptas: dalyvavimo kontekstas. *Ekonomika ir vadyba: aktualijos ir perspektyvos*, t. 1, No 10, pp. 186–192.

Zéghal, D., Maaloul, A. (2010). Analysing value added as an indicator of intellectual capital and its consequences on company performance. *Journal of Intellectual Capital*, 11 (1), pp. 30–60.

University education results in significantly higher wages (2006). [Accessed on July 8, 2011] Internet access http://www.workpermit.com/news/2006_11_20/us/university_education_higher_wages.htm